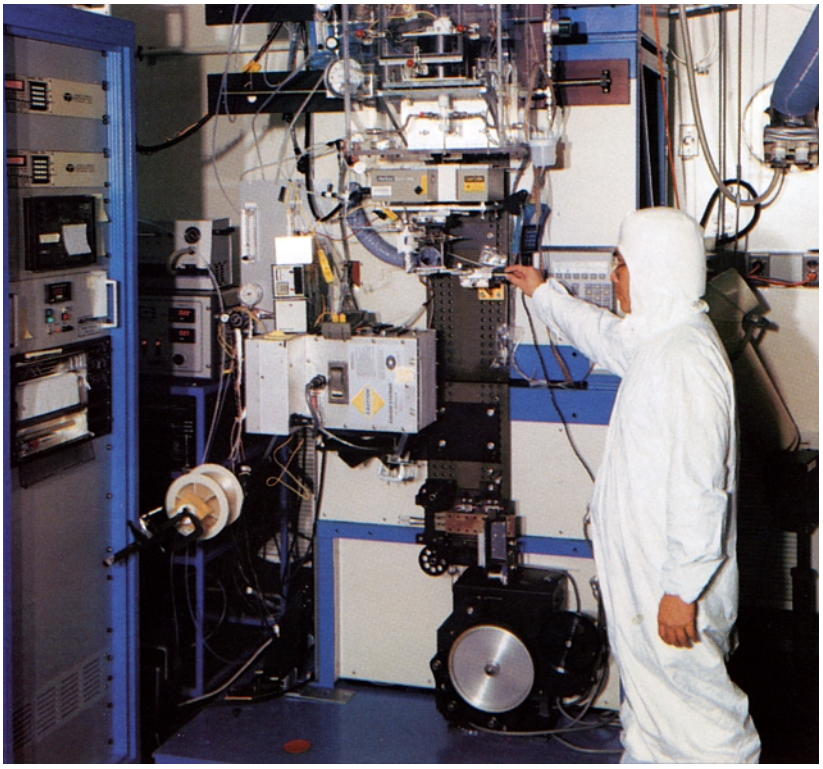
LOW-LOSS IR TRANSMITTING FIBERS



Infrared fiber drawing tower

The Naval Research Laboratory (NRL) is developing IR transmitting fibers for the 2-12 μm wavelength region. The purified chemicals are prepared and used to make glass, which is drawn into long lengths of low-loss fibers by using both the rod-in-tube and double crucible processes. These fibers offer significant advantages that will enable several critical technologies. The fibers made at NRL have record low loss and high strength. They are flexible and chemically durable. Major applications of these fibers are in infrared countermeasures and laser threat warning systems for aircraft survivability and fiber-optic chemical sensor systems, which are required for DoD and DoE facility clean up. Other applications include thermal imaging, temperature monitoring, laser power transmission, remoting of IR detectors and sources, imaging of IR focal plane arrays, medical applications, and long wavelength laser material.

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